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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,296	11/17/2003	Steven M. Weinzierl	16623	5217
24113	7590	07/12/2005	EXAMINER	
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A. 4800 IDS CENTER 80 SOUTH 8TH STREET MINNEAPOLIS, MN 55402-2100			LUM VANNUCCI, LEE SIN YEE	
			ART UNIT	PAPER NUMBER
			3611	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/715,296	WEINZIERL, STEVEN M.	
	Examiner	Art Unit	
	Lee Lum	3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 is/are allowed.
- 6) ☒ Claim(s) 10-14, 16-21 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

1. An Amendment After Final was filed 6/21/05 in which Claims 15 and 22 were also cancelled. The Amendment will be entered into the file.

Upon reconsideration, the finality of the previous Office Action is withdrawn, so to present new rejections in this Action. *Examiner sincerely apologizes for the inconvenience.*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-14, 16-21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 10 and 17, the language, "by being so disposed as to", to the end of the respective paragraph, is unclear because it is unknown if it refers to the location of the "first heat exchanger", or merely precedes functional language, or otherwise. Therefore, this portion of the claim is unclear.

Additionally, in both Claims, the language, "including at least the heat of fusion", is unclear because it is unknown if it refers/related to "enhancing the efficiency of the first heat exchanger" or "to cool the air charge", or otherwise.

In Claims 16 and 23, a "second heat exchanger liquid reservoir" cannot be identified/located because there is only a single reservoir 180, *as best understood*, via the Spec and drawings.

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A. *As best understood*, Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edmaier et al 5394854.

As best understood, Edmaier discloses an air-charging system for a vehicle* engine, as depicted at least in fig 1, comprising

First heat exchanger 1 for cooling an air charge (from a turbo charger; c4, ln 36-37),
an efficiency of the heat exchanger being enhanced by being so disposed as to cool the air charge by means of latent heat including at least the heat of fusion required to melt a mass of snow/ice in thermal communication with the heat exchanger, *as best understood*,

Second heat exchanger 2 operating with the first, including a liquid reservoir (unidentified, inherent).

* The language "for use with a snowmobile engine" indicates intended use, and subsequent language, and subsequent claims, do not distinguish this particular vehicle. Therefore, this language is given minimal patentable weight. It is also noted that the recited elements may be employed in other vehicle types, and not exclusively in a snowmobile.

B. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edmaier in view of Hedeem 5316079.

Edmaier does not disclose the first heat exchanger being mounted to a thermally-conductive structure in the vehicle, while Hedeem shows this configuration in fig 2, with

Heat exchanger 38 structurally connected to heat exchanger 40,
both heat exchangers being (impliedly) thermally-conductive.

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It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Hedeem, to efficiently employ heat conduction to further dissipate heat from the system, thus increase efficiency of the cooling system at little/no additional cost. Hedeem's configuration is but one of many possible arrangements of two thermally-conductive components, all being functionally equivalent.

C. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Edmaier in view of Sturges 4546742.

Edmaier does not disclose ram air being passed over/through the first heat exchanger, while Sturges shows this configuration in c2, ln 65-end. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Sturges, to further cool the charged air, and the heat exchanger itself, thus increase performance of the system, and prolong the life and function of the heat exchanger.

4. **Claims 1-9, 11, 12, 16-21 and 23** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and any objections resolved.

Re Claims 1-9, prior art does not disclose a method of operating a snowmobile having an air-charging assembly comprising, *inter alia*, providing a snow/ice retention area adjacent a heat exchanger.

Re Claims 11+, prior art does not disclose the system provided above (in paragraph 3) further comprising, *inter alia*, the first heat exchanger as being in thermal communication with a mass of snow/ice.

5. The prior art considered pertinent to the disclosure, but not relied upon, include:
Natkin et al 6748934, Emmerling 4317439

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6. RESPONSE TO REMARKS

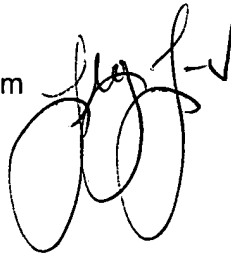
Upon reconsideration, new 112/2nd and prior art rejections are provided. Again, Examiner extends her sincerest apologies for the inconvenience.

7. Communication with USPTO/Examiner

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-6. If attempts to reach the examiner are unsuccessful, her supervisor, Ms. Lesley Morris is at 571 272-6651. Our fax number is 703 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications: private PAIR only, for published applications: private or public PAIR. For more information re PAIR: <http://pair-direct.uspto.gov>. Questions re private PAIR: contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum
Examiner
7/7/05

A handwritten signature in black ink, appearing to be 'Lum', with a checkmark at the end.